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- There is a possibility that this unit is inapplicable to some of the vehicle models or systems listed in the diagnosis section due to different countries, areas, and/or years. Do not hesitate to contact LAUNCH if you come across such questions. We are to help you solve the problem as soon as possible.

Disclaimer

- To take full advantage of the unit, you should be familiar with the engine.
- All information, illustrations, and specifications contained in this manual are based on the latest information available at the time of publication. The right is reserved to make change at any time without notice.

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Introduction

X-431 is the most advanced automobile diagnostic unit in the world at present. Please refer to X-431 User's Manual for its features, hardware configuration, printer operation, button description, conditions for test, etc.

Here we describe the operation procedure for Russia GAZ diagnostic program.

Select Diagnostic Connector

At present, this diagnostic program can be used to diagnose GAZ vehicle up to 2003 with 12PIN diagnostic socket. So, select [GAZ-12PIN] diagnostic connector when doing test.

Diagnostic Socket Location

The GAZ 12PIN diagnostic socket is usually located in the engine compartment.

Pin Definitions

GAZ 12PIN Diagnostic Socket

The GAZ 12PIN diagnostic socket is as shown in Figure 01.

12	11	10
9	8	7
6	5	4
3	2	1

Figure 01

PIN definition of GAZ 12PIN diagnostic socket

PIN	Definition
2	Power (+)
11	Ground (-)
12	K line

Connection

Refer to Figure 02 for connection before performing diagnosis.

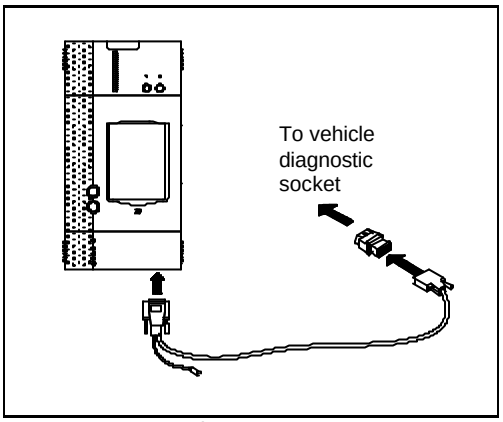

Figure 02

- Insert the CF card into the CF card slot, ***(Note: keep the face labeled "UPSIDE" upward),*** and make sure the card is fully seated.
- Insert one end of the main cable into the diagnostic socket on SMARTBOX.
- Connect the other end of the main cable to the [GAZ-12PIN] diagnostic connector.
- Connect the other end of the diagnostic connector to GAZ 12PIN diagnostic socket.

Note: If the power supply on vehicle diagnostic socket is insufficient or the power pin is damaged, you can get power in the following ways:

- ***From cigarette lighter: insert one end of the cigarette lighter cable into the lighter socket in vehicle and connect the other end to the power connector of X-431 main cable.***
- ***From battery: clamp the two clips of battery cable on the positive and negative poles of battery and insert another end of the cable into the power connector of X-431 main cable.***
- ***From power adapter: connect the power adapter to the 100-240V AC outlet with power cord. Insert the 12V DC plug of power adapter into the power connector of X-431 main cable.***

Operation

Entering Function Menu

After connection, press [**POWER**] key to start X-431.

After starting the main unit, press [**HOTKEY**] (or click [**Start**] button on **the main menu**, and select [**GAG**]→[**GD Scan**] on the pop-up menu). The screen will display the home page of vehicle diagnosis as shown in Figure 03.

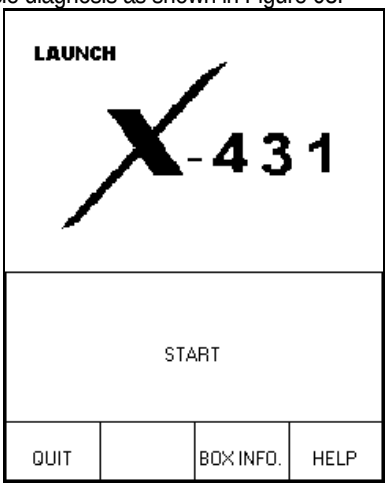

Figure 03

Button descriptions:

? ? ***[QUIT]: to exit the diagnostic program.***

? ? ***[BOX INFO.]: to display hardware and software version of SMARTBOX.***

? ? ***[HELP]: to display help information.***

? ? ***[START]: to start diagnosis.***

Click [**START**] button, the screen will display **the vehicle make menu** as shown in Figure 04.

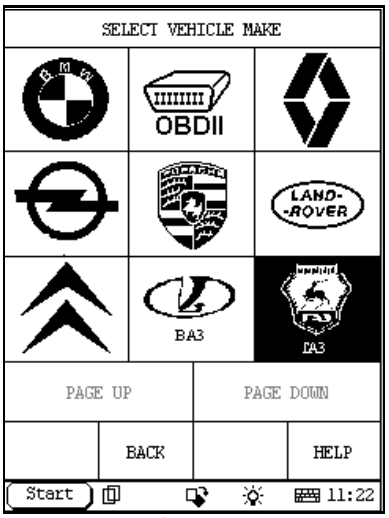

Figure 04

Button descriptions:

? ? ***[BACK]: to return to the previous interface.***

? ? ***[PAGE UP]: to display the previous page, it is inactive if the current page is the first page.***

? ? ***[PAGE DOWN]: to display the next page, it is inactive if the current page is the last page.***

? ? ***[HELP]: to display the help information.***

Click the icon of GAZ on the vehicle make menu. The screen as shown in Figure 05 will appear.

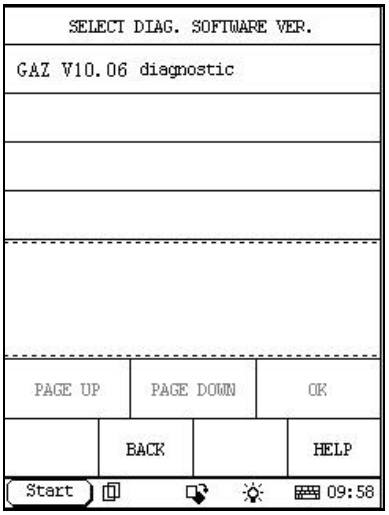

Figure 05

Click [**GAZ V10.06 diagnostic**]. The screen will display the information as shown in Figure 06.

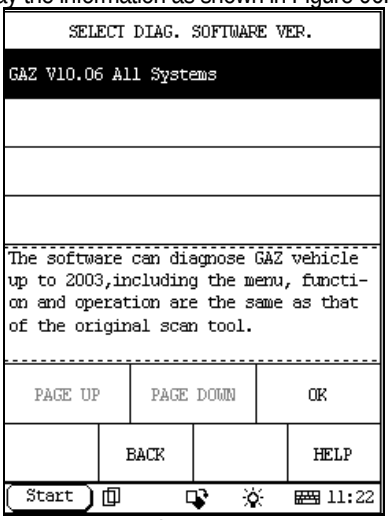

Figure 06

The software can diagnose all systems of GAZ vehicle up to 2003.

Click [**OK**] button. X-431 begins to reset and check the SMARTBOX, and load the diagnostic program from the CF card. After download, the screen will display the message as shown in Figure 07.

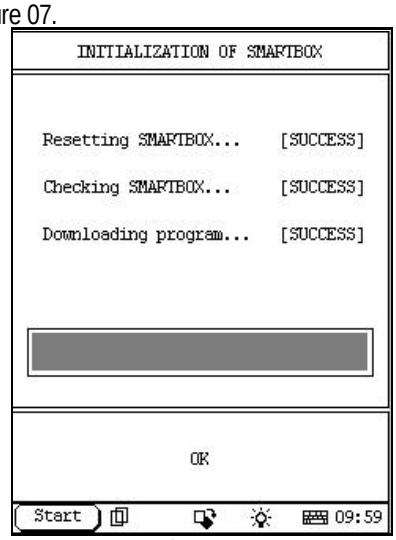

Figure 07

Button descriptions:
[OK]: to go on the test.

Click [OK] button. X-431 will read the version information of ECU on the tested vehicle as shown in Figure 08.

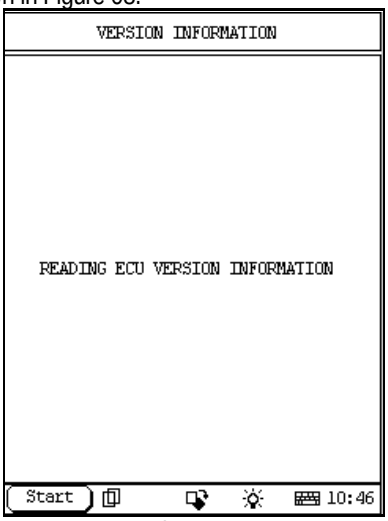

Figure 08

After reading the version information of ECU, the screen will display the system menu as shown in Figure 09.

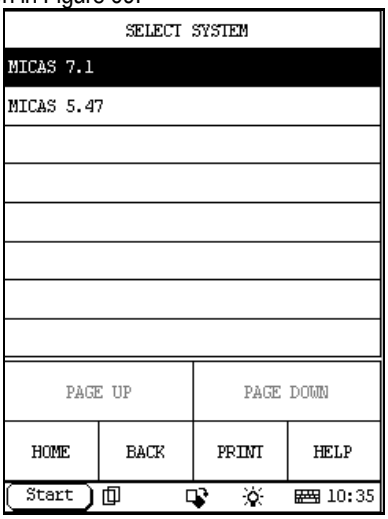

Figure 09

The test procedures of the two systems are similar, here we only gives the test procedures of [NICAS 7.1]. Click [NICAS 7.1], the screen will display the corresponding function menu as shown in Figure 10.

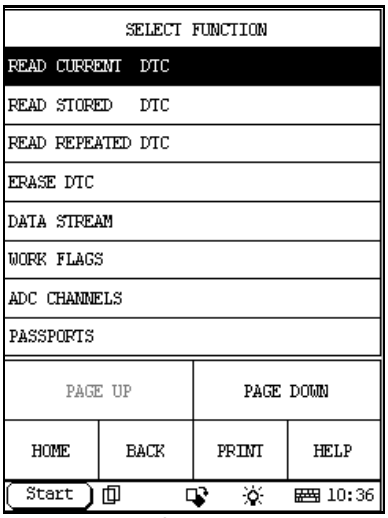

Figure 10

Click [PAGE DOWN] to view the next page as shown in Figure 11.

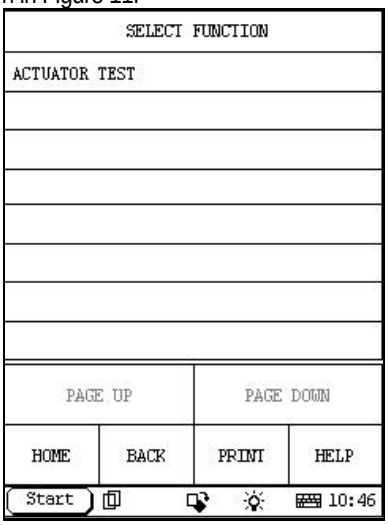

Figure 11

User can perform the desired function by clicking corresponding item on the function menu.

Read Current DTC

Click [READ CURRENT DTC] in the function menu. The screen will display the current DTC of the tested vehicle if any. If the vehicle has no current DTC, the screen will display a message as shown in Figure 12.

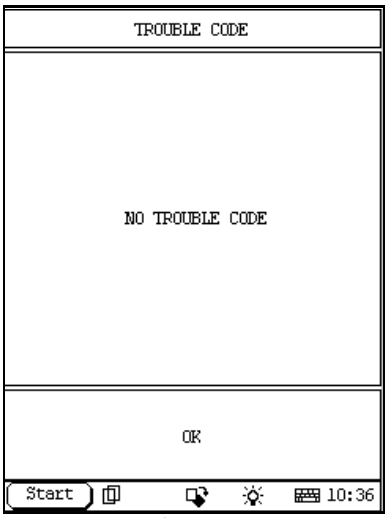

Figure 12

Click [OK] to return to the function menu.

Read Stored DTC

Click [READ STORED DTC] in the function menu. The screen will display the stored DTC of the tested vehicle if any. If the vehicle has no stored DTC, the screen will display a message as shown in Figure 13.

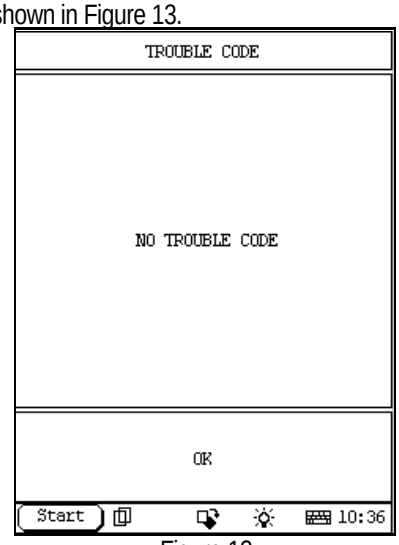

Figure 13

Click [OK] to return to the function menu.

Read Repeated DTC

Click [READ REPEATED DTC] in the function

menu. The screen will display the repeated DTC of the tested vehicle if any. If the vehicle has no repeated DTC, the screen will display a message as shown in Figure 14.

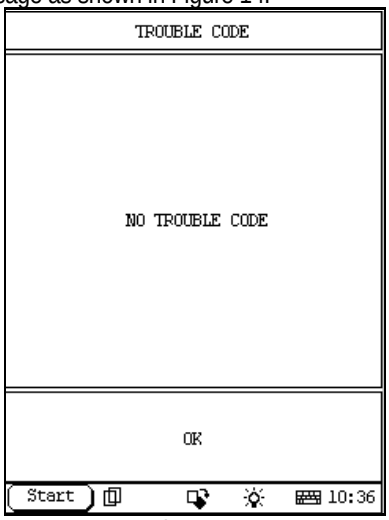

Figure 14

Erase DTC

Click [ERASE DTC] in the function menu. X-431 will display a message as shown in Figure 14.

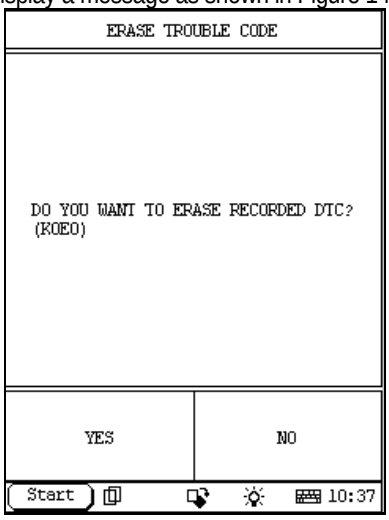

Figure 14

Click [YES] to perform erasing, click [NO] to cancel erasing and return. After erasing, the screen will display a message as shown in Figure15.

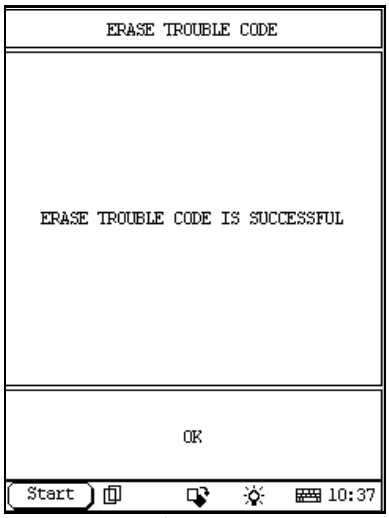

Figure 15

Click [OK] to return to the function menu.

Data Stream

Click [DATA STREAM] in the function menu. X-431 will display the data stream items as shown in Figure16.

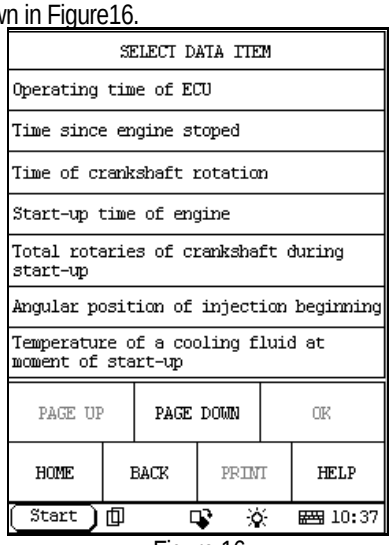

Figure 16

Click [PAGE DOWN] button to display the data stream items on the next page. To view the data stream live values, click the corresponding items to select as shown in Figure 17.

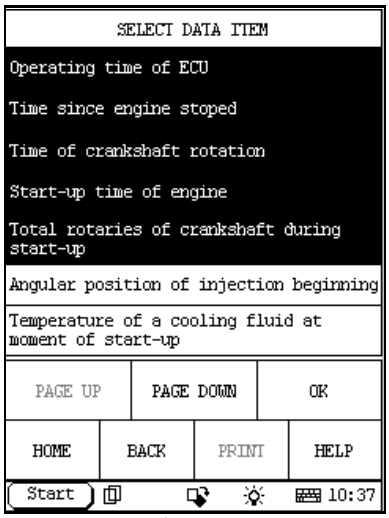

Figure 17

After selecting, click [OK] to display the live data stream as shown in Figure 18.

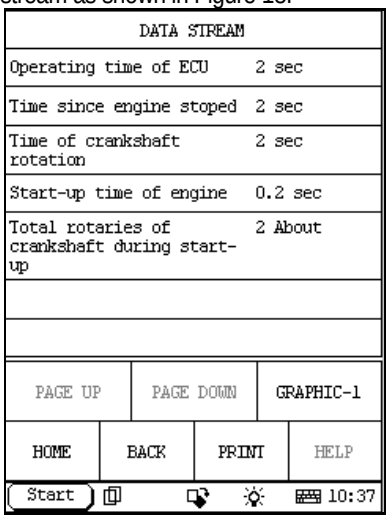

Figure 18

Note:

- ***Click [GRAPHIC-1] on the digital display mode to display the waveform of a single data stream item.***
- ***Click [GRAPHIC-2] on the GRAPHIC-1 display mode to display the waveforms of 2 data stream items.***
- ***Click [DIGITAL] on the GRAPHIC-2 display mode to display the live data stream value again.***
- ***The three display modes -- [DIGITAL], [GRAPHIC-1] and [GRAPHIC-2] can be switched in turn.***

Work Flag

Click [WORK FLAG] in the function menu. X-431 will display the data stream items as shown in Figure 19.

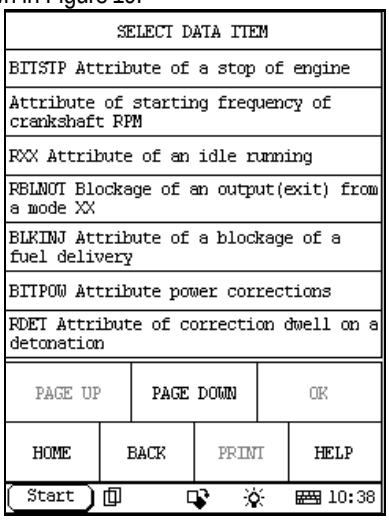

Figure19

Click [PAGE DOWN] button to display the data stream items on the next page. To view the work flag status, click the corresponding items to select as shown in Figure 20.

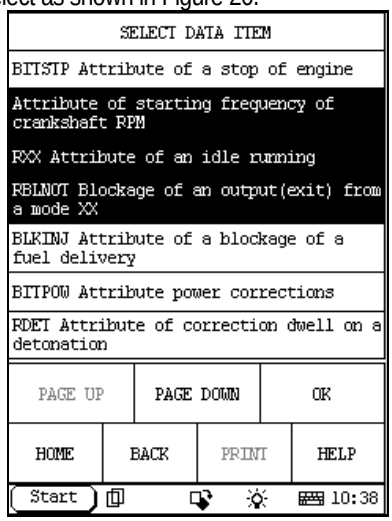

Figure 20

After selecting, click [OK] to display the work flag status as shown in Figure 21.

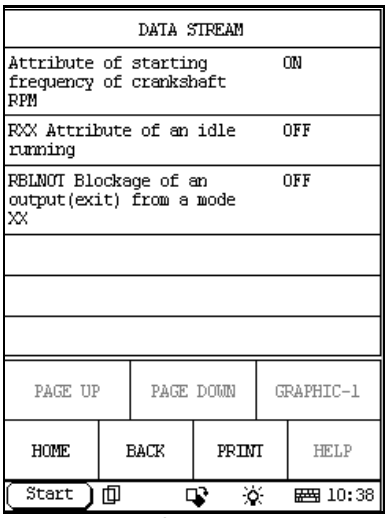

Figure 21

ADC Channels

Note: ECU uses A/D converter channels for several sensors, i.e. oil temperature sensor and so on. Here, ADC refers to the Analog Digital Converter.

Click [ADC CHANNELS] in the function menu. X-431 will display the data stream items as shown in Figure 22.

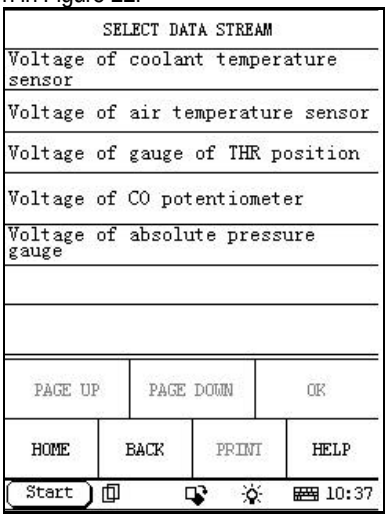

Figure 22

To view the live data stream, click the corresponding items to select as shown in Figure 23.

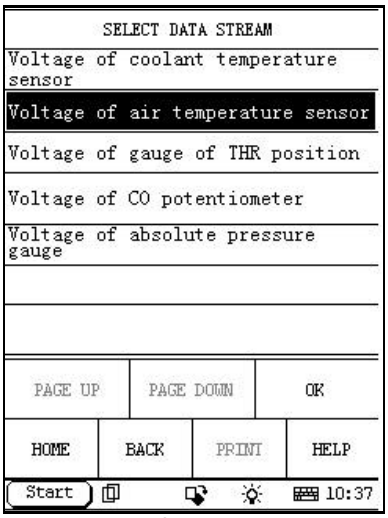

Figure 23

After selecting, click [OK] to display the live data stream.

Passport

Click [PASSPORT] in the function menu. X-431 will display the sub-function menu as shown in Figure 24.

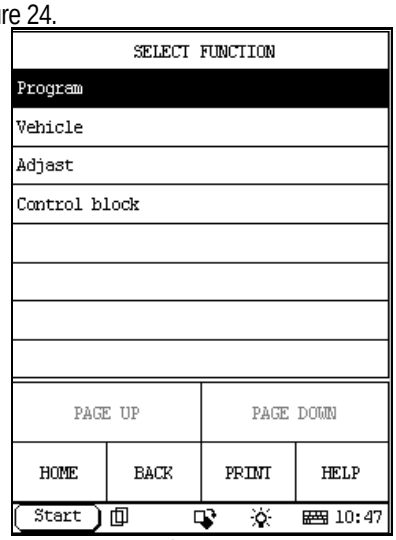

Figure 24

Program

Click [Program] in the passport function menu. The screen will display the data stream value related to program as shown in Figure 25.

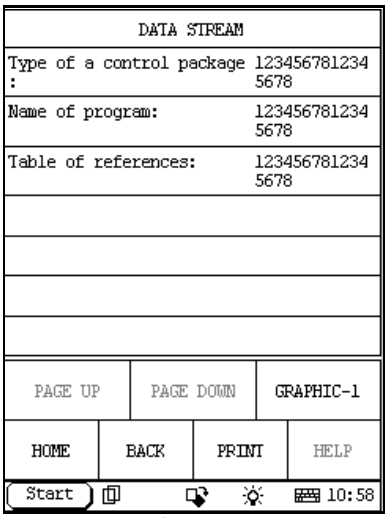

Figure 25

Vehicle

Click [Vehicle] in the passport function menu. The screen will display the data stream value related to vehicle as shown in Figure 26.

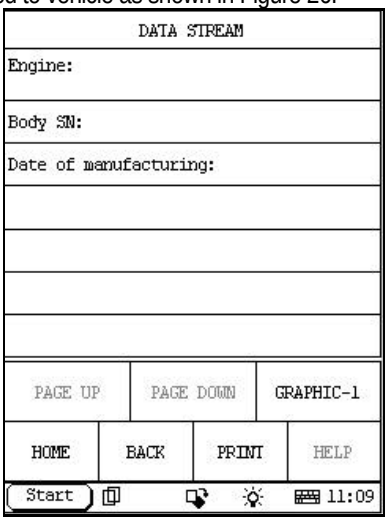

Figure 26

Adjust

Click [Adjust] in the passport function menu. The screen will display the data stream value related to adjust as shown in Figure 27.

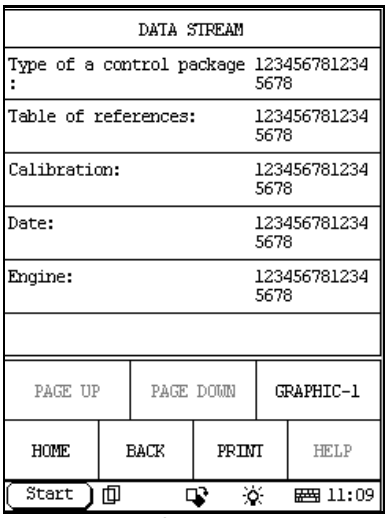

Figure 27

Control Block

Click [Control block] in the passport function menu. The screen will display the data stream value related to control block as shown in Figure 28.

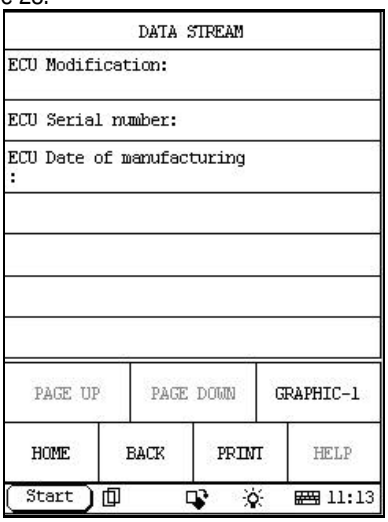

Figure 29

Actuator Test

Click [ACTUATOR TEST] in the function menu. X-431 will display actuator menu as shown in Figure 30.

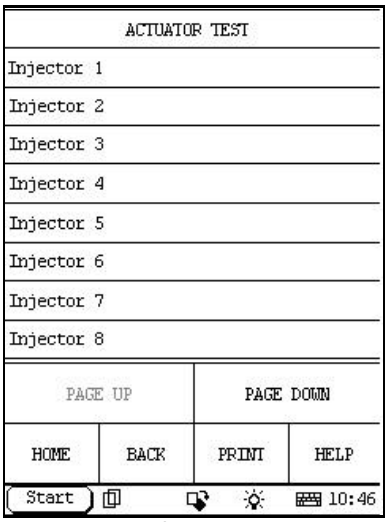

Figure 30

Click [PAGE DOWN] button to display the actuator items on the next page. To perform actuator test, click the corresponding items. For example, click [Injector 1]; the screen will display an interface as shown in Figure 31.

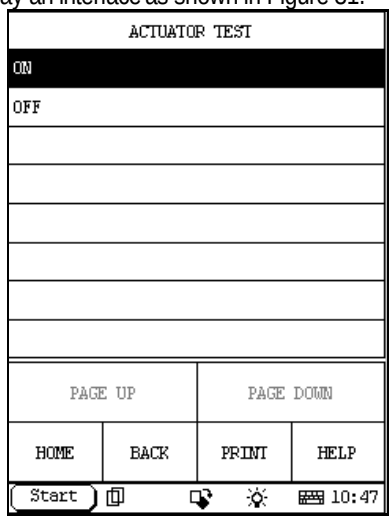

Figure 31

Click [ON] or [OFF], the injector 1 will be switched ON or OFF. After test, the screen will display a message as shown in Figure 32.

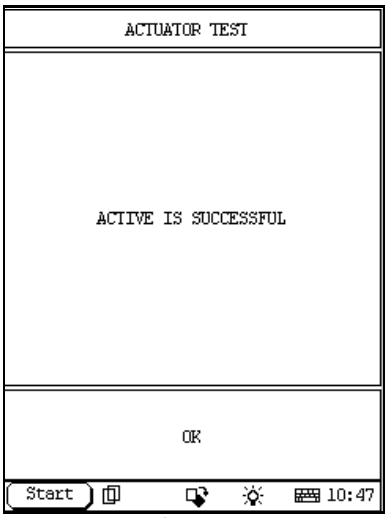

Figure 32

Click [OK] to return to the actuator menu. User can test another actuator by clicking it as required.

Warranty

THIS WARRANTY IS EXPRESSLY LIMITED TO PERSONS WHO PURCHASE LAUNCH PRODUCTS FOR PURPOSES OF RESALE OR USE IN THE ORDINARY COURSE OF THE BUYER'S BUSINESS.

LAUNCH electronic product is warranted against defects in materials and workmanship for one year (12 months) from date of delivery to the user.

This warranty does not cover any part that has been abused, altered, used for a purpose other than for which it was intended, or used in a manner inconsistent with instructions regarding use. The exclusive remedy for any automotive meter found to be defective is repair or replacement, and LAUNCH shall not be liable for any consequential or incidental damages.

Final determination of defects shall be made by LAUNCH in accordance with procedures established by LAUNCH. No agent, employee, or representative of LAUNCH has any authority to bind LAUNCH to any affirmation, representation, or warranty concerning LAUNCH automotive meters, except as stated herein.

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Order Information

Replaceable and optional parts can be ordered directly from your LAUNCH authorized tool supplier. Your order should include the following information:

1. Quantity
2. Part number
3. Item description

Customer Service

If you have any questions on the operation of the unit, please contact us:

Tel: 86-755-82269474,
Fax: 86-755-82264570,
E-mail: overseasales @ cnlaunch. com.

If your unit requires repair service, return it to the manufacturer with a copy of the sales receipt and a note describing the problem. If the unit is determined to be in warranty, it will be repaired or replaced at no charge. If the unit is determined to be out of warranty, it will be repaired for a nominal service charge plus return freight. Send the unit pre-paid to:

Attn: Overseas Department
LAUNCH TECH. CO., LTD.
Xinyang Building,
Bagua 4th Road,
Shenzhen, Guangdong Province,
China